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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/412,510	10/05/1999	KENJI ITOH	0756-2045	9753

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SIXBEY FRIEDMAN LEEDOM & FERGUSON PC  
8180 GREENSBORO DRIVE  
SUITE 800  
MCLEAN, VA 22102

EXAMINER

PADGETT, MARIANNE L

ART UNIT

PAPER NUMBER

1762

DATE MAILED: 12/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/412,510

Applicant(s)

ITOH ET AL.

Examiner

Marianne L. Padgett

Art Unit

1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 929/2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 42-86 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 42-86 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

Art Unit: 1762

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claims 42-86 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 42, 44, 53, 55-56 & 58 of copending Application No. 09/438,581. Although the conflicting claims are not identical, they are not patentably distinct from each other, because as discussed in section 3 of the 6/7/2005 action, the application claims of (581) are the generic to the specific features of the instant invention's plasma structure & production, hence totally encompass this set of claims. It was noted that while (581)'s phrasing remains more general, so that the above described Kamaji et al is applicable, read in light of its

Art Unit: 1762

specification, no unlocalized low density plasma appear to be intended, such that they are considered obvious variations. While the present application independent claims differ by being generic to use of unspecified reactive gas instead of generic etching or generic ashing, which is etching, these are directed to traditional uses of plasma, hence would have been obvious to employ in conventional plasma etching & ashing operations for their standard purposes, with dependent claim gas limitations to nitrogen fluoride or comprising oxygen being standard conventional etch gases obvious to use for their new purposes.

Alternately, Claims 42-86 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 42, 44, 53, 55-56 & 58 of U.S. Patent No. 09/438,581 in view of Kamaji et al (discussed above). While the (581) claims limit the plasma to length & width of the opening, it is not necessarily required to be a slit, however Kamaji et al show the use of slit inlets in analogous high density plasmas with localized effects, hence it would have been obvious that such slit opening as used in Kamaji, would have been expected to be effective in determining useful shapes of the (581) openings, because of advantages to reaction rate taught by Kamaji et al (summary)

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

3. Claims 42-86 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 43, 54, 57, 60-62 & 64-69 of U.S. Patent No. 09/438,581 in view of Jansen et al (5,073,785), as discussed in section 4 of the 6/7/2005 action.

These claims were noted to further differ by being directed to a different result in the (581) application, that of depositing a film comprising carbon, instead of etching with a plasma of an analogous configuration. While the instant claims are directed to etching or ashing techniques, it is old and well known in the plasma art that plasma apparatus/process are useful for both etching and coating (CVD, PECVD) techniques. Jansen et al (785) illustrates use of carbon-containing gas compounds as claimed in (581) to produce C-containing films as required, via a plasma process (Abstract, figure; Summary; Ex. 1),

Art Unit: 1762

where the example 1 also illustrates that the same apparatus is initially used for a plasma cleaning and descumming operations, thus an etching process, hence it would have been obvious to one of ordinary skill that the procedure of the instant claims would have been expected to have been useful for other processes than etching/ashing, and that the generic claims of (581) would have been expected to also be useful for the specific process of etching, not just C-coating, as suggested by the range of uses illustrated in and by Jansen et al (785).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

4. Claims 42-52 & 73- 86 remain rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-17 of U.S. Patent No. 6,001,432 in view of Jansen et al, and optionally Kamaji et al, as discussed in sections 4-5 of the 6/7/2005 action, with emphasis above. These patent claims remain substantially similar to its child case (581) discussed above, but lack the more generic options; hence the above arguments for obviousness also apply to this patent (432).

The examiner has reviewed applicants' traversal of this rejection on the grounds that the present claims are related to etching/ashing, while the (432) patent is claiming film forming or deposition processes, however this argument is not persuasive in view of previously given arguments for the obviousness of either etching/ashing or deposition being performed by the same plasma apparatus as illustrated by Jansen et al. Applicant has provided no reason why a person of ordinary skill in the art knowing that etching operations can be performed by the same plasma apparatus that forms carbon deposition by switching gases used, such as from etching gases (Ar/nitrous oxide, i.e. oxygen containing or Ar/H<sub>2</sub>) to deposition gases (Ar/C<sub>2</sub>H<sub>2</sub> or CF<sub>4</sub>), would not find it obvious to similarly perform etching operations by switching the processing gases that produce carbon depositions in the (432) patent claims. Considering applicants' arguments, the examiner has removed the more specific etching claims that are

Art Unit: 1762

related to a more specific etching/ashing process that requires treatment of ion doped substrate having a resist thereupon and including location change during the ashing/etching process.

5. Applicant's arguments filed 9/29/2005 and discussed above have been fully considered but they are not persuasive.

It is noted that the obviousness double patenting rejections over 09/438,581 will be withdrawn as requested by applicants, if the above issues concerning PN 6,001,432 are resolved and the application (581) is still pending (i.e. has not been allowed) with claims it have not been significantly changed.

Other art of interest found during the update of the search include Schaepkens (6,948,448 B2); Yanagisawa et al. (6,908,566 A2) & Lee et al. (6,907,841 B2), which are not prior art, but relate to plasmas structured in configurations of interest to the claims.

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marianne L. Padgett whose telephone number is (571) 272-1425. The examiner can normally be reached on M-F from about 8:30 a.m. to 4:30 p.m.

Art Unit: 1762

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks, can be reached at (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MLP 12/10/2005



MARIANNE PADGETT  
PRIMARY EXAMINER